

REMARKS

The specification has been amended on page 1, line 26, to correct the informality noted by the Examiner. Claims 1, 2, 7, 9 and 10 have been amended, Claim 6 has been cancelled and new Claim 12 has been added. Accordingly, Claims 1-5, 7 and 9-12 are pending in the application. Favorable reconsideration of the application is respectfully requested.

The Examiner has objected to the disclosure, stating that on page 1, line 26, "spicket" should be "spigot". This has been corrected.

Claims 1-5, 7 and 9-11 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite. The Examiner makes specific reference to Claims 1 and 7 which recite "a water faucet or the like". Claims 1 and 7 have been amended to change "a water faucet or the like" to -- fluid dispensing device--.

The Examiner further refers to Claim 9, lines 3 and 4, which recites "activating the the water control valve", stating there is no previous recitation to "a water control valve". Claim 9 has been amended to recite -- activating a water control valve -- .

The Examiner makes reference to the recitation "when the water control valve when either the presence of an object within the detection range is determined", in Claim 10, lines 7-11, stating the phrase is unclear. Claim 10 has been amended and now recites -- deactivating the water control valve when said predetermined time interval expires prior to the detection of motion within said detection range --.

The foregoing amendments are believed to meet the Examiner's objections to Claims 1-5, 7 and 9-11, and therefore, the withdrawal of the rejection under 35 U.S.C. 112, second paragraph, is respectfully requested.

Claims 1-5, 7 and 9-11 stand rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent No. 5,566,702 (Philipp). Philipp discloses a system comprising an IR transmitter, and an IR receiver located proximate a water faucet. Control logic compares the output signal from the receiver with an activation threshold to determine motion and/or presence of an object within the detection range and activate a water control valve. A PRESENCE timer provides a 15 second delay after with a MOTIONTIMEOUT timer is started to set the overall time that the faucet will be allowed to run. To detect the presence of an object, Philipp compares the current value of an IR reflection with a dynamically changing reference value. To detect motion, Philipp measures the absolute value of the difference between the current value of an IR reflection and a previously obtained value of IR reflection.

Claim 1 distinguishes over Philipp by reciting control logic "configured to detect the occurrence of motion within said detection range, including calculating the difference between consecutive samples of said output signal from said IR receiving device and comparing said difference to a pre-programmed static value that is indicative of movement of an object within said detection range".

Similarly, method Claim 7 distinguishes over Philipp by reciting "detecting the occurrence of motion within said detection range, including calculating the difference between consecutive samples of said output signal from said IR receiving device and comparing said difference to a pre-programmed static value that is indicative of movement of an object within said detection range".

For proximity detection, Philipp compares the current value of a reflected IR signal (SIGNAL) with a threshold value (THRESHOLD) and if SIGNAL never exceeds the threshold value within a set time interval, compares SIGNAL with a background reference level BACKGROUND. The threshold value is continually updated and the signal BACKGROUND is adjusted up or down, or replaced by the current value of SIGNAL. Thus, both reference signals change dynamically. For motion detection, Philipp obtains the absolute value of the difference between a current value of SIGNAL and a previously stored value of SIGNAL acquired within a predetermined time interval, as disclosed in column 10, lines 7-18 of the Philipp patent. Philipp makes no mention of comparing the difference with a pre-programmed static value that is indicative of movement of an object within said detection range, as recited in claims 1 and 7. Moreover, as disclosed in column 10, at lines 19-36, of the Philipp patent, SIGNAL is compared with the variable reference BACKGROUND, which teaches away from the use of a pre-determined fixed or static reference for detecting motion of an object within a detection range.

Therefore, it is respectfully submitted that Claims 1 and 7 clearly distinguish over Philipp and are believed to be patentable over Philipp. Claims 2-5, which are dependent upon claim 1 and claims 9-11, which are dependent upon claim 7, are believed to be patentable along with respective parent claims.

New claim 12 is directed to a method for processing reflected infrared signals which are used to control the flow of water from a fluid dispensing device and distinguishes over Philipp by reciting the steps of comparing said output signal from said IR receiving device to an activation threshold to determine the presence of an object within said detection range, said activation threshold being initially determined using an ambient reading of IR energy present in surrounding environment and an ambient reflection reading without an object in said detection range, and the activation threshold being dynamically adjusted to account for changes in ambient IR and ambient reflection IR; and detecting the occurrence of motion within said detection range including calculating the difference between consecutive samples of said output signal from said IR receiving device and comparing said difference to a pre-programmed static value that is indicative of movement of an object within said detection range.

Philipp neither discloses nor suggests the use of a fixed or static reference for detecting motion of an object within a detection range. Therefore, it is submitted that Claim 12 clearly distinguishes over Philipp and is believed to be patentable over Philipp.

In summary, Claims 1-5, 7 and 9-12 are believed to be allowable for the reasons given herein. Therefore, favorable reconsideration and allowance of the application is respectfully requested. Should the Examiner believe that the prosecution of the application could be expedited, the Examiner is requested to call Applicant's undersigned representative at the number listed below.

Respectfully submitted:

BY Leonard J. Kalinowski
Leonard J. Kalinowski
Registration No. 24,207

Reinhart Boerner Van Deuren s.c.
1000 North Water Street, Suite 2100
Milwaukee, WI 53202
(414) 298-8359
Customer No. 22922